

**Annual Report
of the
SASKATCHEWAN
CANCER
FOUNDATION**

April 1, 1987 to March 31, 1988

**SASKATCHEWAN CANCER FOUNDATION
Suite 400, 2631 - 28th Avenue
Regina, Saskatchewan
S4S 6X3**

**Allan Blair Memorial Clinic
4101 Dewdney Avenue
Regina, Saskatchewan
S4T 7T1**

**Saskatoon Cancer Clinic
20 Campus Drive
Saskatoon, Saskatchewan
S7N 0X0**

89-02829/

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Letter of Transmittal

The Honourable George McLeod
Minister of Health
Province of Saskatchewan
Legislative Building
Regina, Saskatchewan
S4S 0B3

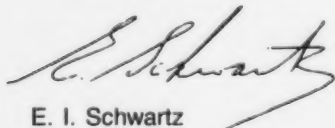
Dear Mr. McLeod:

As Chairman of the Saskatchewan Cancer Foundation's Board of Directors, I have the honour to submit herewith the report of the activities of the Foundation for the fiscal year ending March 31, 1988.

We are pleased that Mr. David Babiuk was appointed to the Board. Mr. Babiuk, like his predecessor, Dr. D. J. Philippon, brings to the Board his unique expertise and provides an important liaison with Saskatchewan Health.

We continue to appreciate the interest you and your colleagues take in the cancer program. As the Foundation faces new challenges in the delivery of its services we look forward to working together to meet the needs of our patients and their families.

Respectfully submitted,



E. I. Schwartz
Chairman

Board of Directors



Mr. E. I. Schwartz
Chairman
Saskatoon



Mr. D. Babiuk
Regina



Dr. J. L. Blackburn
Saskatoon



Mrs. D. Cowie
Alida



Mr. J. Craig
North Battleford



Dr. I. E. Daunt
Yorkton



Mrs. E. Green
Melfort



Dr. W. D. MacRae
Regina



Mr. G. F. McCallum
Regina



Dr. I. M. McDonald
Saskatoon



Mrs. J. Turko
Swift Current

Cancer Control Program

The Saskatchewan Cancer Foundation is responsible for the development and operation of the Saskatchewan Cancer Program. The Foundation's administrative staff have responsibility for the implementation of policies and for the ongoing operation of the program.

The Foundation's two cancer clinics — the Allan Blair Memorial Clinic in Regina and the Saskatoon Cancer Clinic — provide diagnostic services, radiotherapy and chemotherapy treatment and follow-up services. They also serve as centres for the co-ordination of a multi-disciplinary approach to all aspects of care and treatment for cancer patients. Clinic staff work closely with the patient's family physician, consulting physician and surgeon, and other persons not directly employed by the Foundation to ensure the provision of high quality treatment and follow-up care.

Objectives

The objectives of the Saskatchewan Cancer Foundation are:

- the operation of cancer clinics for the examination, diagnosis and treatment of cancer patients.
- the education of the public in the importance of the early diagnosis, prevention and treatment of cancer.
- the training of technical personnel to assist in the examination, diagnosis, treatment and study of cancer and the provision of facilities for undergraduate and post-graduate study relating to cancer.
- the conduct of and participation in research projects in the diagnosis, prevention and treatment of cancer.
- the maintenance and operation of hostels in connection with the clinics.

Cancer Control Program

Nature and Scope of Services

The program offered by the Saskatchewan Cancer Foundation incorporates prevention, detection, diagnosis, treatment and follow-up of patients with malignant or premalignant disease. As a part of this comprehensive program, the Foundation is involved in teaching and research which is complementary to the service activities.

Since only patients referred by doctors are admitted to the Cancer Control Program, the responsibility for suspecting cancer and facilitating its detection at the earliest possible times rests with the family doctor. When the family physician suspects the presence of cancer, and has completed the investigations, a diagnosis should be arrived at and an evaluation made as to the extent of the disease and the treatment required as soon as possible. To facilitate this process the patient should be referred to the cancer clinic or appropriate specialists, whichever is most suitable. In all cases, the patient must be registered with the program within 14 days of making the diagnosis of cancer.

When a malignant condition is discovered, the clinic medical staff, the patient's physician, and consultant specialists plan and carry out a treatment program. If surgery forms part of the treatment, the patient and physician may choose an appropriate qualified surgeon from a surgical roster maintained by the Foundation. If radiotherapy forms part of the treatment plan, it is administered by radiation oncologists on the staff of the clinics. Chemotherapy, the treatment of cancer through the administration of chemical agents, is carried out by clinic medical staff and by other physicians in consultation with clinic staff.

Regular follow-up examination of patients treated for cancer is a vital procedure in detecting recurrent disease and for assessing the effectiveness of treatments. The Saskatchewan Cancer Foundation maintains a comprehensive follow-up activity with all patients receiving regularly scheduled examinations after treatment by either personnel of the clinics, consultant specialists or their family physician.

The staff of each clinic, in co-operation with the patient's family physician and consultant specialists, attempt during treatment and follow-up to prepare the patient both physically and psychologically for the future. Those who must be fitted with prosthetics are given instructions on how to adapt to them, while patients with certain disabilities are cared for at the Wascana Hospital in Regina or the rehabilitation unit of the University Hospital in Saskatoon. Patients and their families often go through successive periods of stress and readjustment when faced with problems created by a diagnosis of cancer. Social workers at each clinic are available to meet the social and emotional needs of the cancer patients and their families.

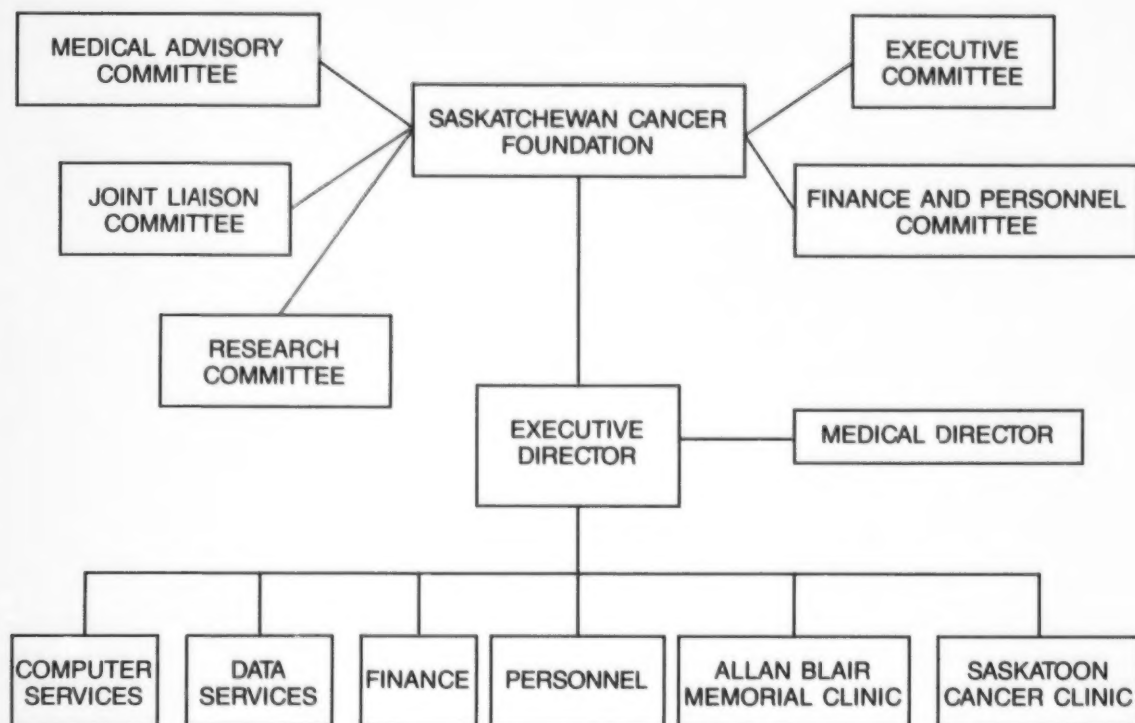
Eligibility and Benefits

To be eligible for benefits under the Cancer Control Program, a patient must be a resident of the province for three months and must be formally admitted to the program by his/her doctor. For landed immigrants and some special residents returning to Canada, this period is reduced to one day.

There is no charge to eligible patients for diagnostic and treatment services received at the cancer clinics. In addition, the Foundation pays for authorized medical and surgical services provided by physicians in private practice, in-hospital drugs, and certain out-patient drugs used in the active treatment of cancer.

The Foundation office or the cancer clinics can provide details on policies governing admission to the program and payment of services, including service outside the province and outside of Canada.

Organization



Committees

Executive Committee

Mr. E. I. Schwartz, Chairman
Dr. J. L. Blackburn
Mr. G. F. McCallum
Dr. I. M. McDonald
Mrs. J. R. Turko

The Executive Committee of the Board considers urgent business of the Foundation which may arise between regular meetings of the Board of Directors.

Finance and Personnel Committee

Dr. J. L. Blackburn, Chairman
Mrs. D. Cowie
Mr. J. Craig
Mrs. E. Green
Dr. W. D. MacRae
Mr. E. I. Schwartz (ex officio)

The Finance and Personnel Committee makes recommendations to the Board regarding the financial operation of the cancer program.

Organization

Medical Advisory Committee

Dr. D. F. White, Saskatoon; Chairman
Dr. A. V. Eustace, Wolseley
Dr. W. N. Huber, Humboldt
Dr. S. K. Liem, Regina
Dr. A. W. Maksymiuk, Saskatoon
Dr. S. Padmanabh, Saskatoon
Dr. D. R. Popkin, Saskatoon
Dr. A. K. S. Teckchandani, North Battleford
Dr. K. R. Visvanathan, Estevan
Dr. H. G. Whiston, Regina

The Medical Advisory Committee advises the Foundation on the provision of medical services and related matters.

Research Committee

Mr. P. H. Peters, Regina; Chairman
Dr. J. D. Chapman, Edmonton
Dr. S. O. Fedoruk, Saskatoon
Dr. D. D. Johnson, Saskatoon
Dr. R. West, Regina
Dr. H. G. Whiston, Regina
Dr. D. F. White, Saskatoon

The Research Committee advises the Foundation on the awarding of grants to support research projects initiated by Foundation staff, or by other researchers collaborating with Foundation staff.

Joint Liaison Committee

Mr. E. I. Schwartz
Mr. P. H. Peters
Mr. A. W. Wilson, Canadian Cancer Society
Mr. G. O. Thomas, Canadian Cancer Society

The Joint Liaison Committee addresses matters which are of mutual concern to the Saskatchewan Cancer Foundation and the Canadian Cancer Society, Saskatchewan Division.

Administration Staff

P. H. Peters	Executive Director
D. F. White	Medical Director
J. M. Gebert	Administrative Assistant
V. J. Lusk	Director of Finance
W. G. Sharp	Associate Director of Finance
O. H. Pratt	Director of Personnel
D. L. Robson	Director of Data Services
D. L. Benson	Director of Computer Services

The administrative staff implement policy and have responsibility for the operation of the cancer program.

Reports

Executive Director



A change of Cancer Clinic Directors took considerable effort during the year. In mid-1987, Dr. David White of Halifax, Nova Scotia assumed the role of Medical Director of the Saskatchewan Cancer Foundation and Director of the Saskatoon Cancer Clinic. Dr. White replaced Dr. David Klaassen, who moved to Vancouver to become the Director of the Cancer Control Agency of British Columbia. The Foundation was pleased to be able to attract an oncologist of Dr. White's stature to this post to help ensure the continuance of a quality cancer program.

At the 1987 year end, Dr. H. G. Whiston, who had been Director of the Allan Blair Memorial Clinic since 1982, found it necessary to step down from this post for health reasons. Dr. G. H. Ewing, who has been with the Clinic since 1978, assumed the position of Director, effective April 1, 1988.

Mr. Peter Dickof, Chief Medical Physicist in the Allan Blair Memorial Clinic, assumed responsibility as the Foundation's Co-ordinator of Physics Services following Dr. Sylvia Fedoruk's retirement.

The Saskatchewan Cancer Foundation's first Sylvia Fedoruk Prize in Medical Physics was open for competition in 1987. Mr. Robert Nishikawa of the Ontario Cancer Institute in Toronto was selected for an article he co-authored with Mr. Gordon Mawdsley, Dr. Aaron Fenster and Dr. Martin Yaffe. The Foundation established the award to recognize Dr. Sylvia Fedoruk for her dedicated 35 years of service to the Province's cancer program.

A major focus for the Foundation has been the construction of the new Saskatoon Cancer Clinic which will be completed in mid-1988. The expanded facilities, designed to accommodate program growth to the year 2000, will allow for more efficient care to patients and provide staff with opportunities for research.

Research is an important part of our program. You will find a description of this activity at the end of our report. During the 1987-88 research year approximately \$400,000 was committed to research projects, which included funding of 13 major projects.

The executive directors and senior finance and personnel officers of the provincial cancer agencies in Canada meet on an annual basis to discuss matters of mutual interest. These meetings are of an informal nature; however, the need for increased formalization is becoming more apparent as various agencies look to the cancer programs for direction. The meeting in Montreal in October, 1987, took the first steps in this structuring.

As we move into a new year there will be renewed emphasis on long-range planning to meet the increasing needs of our patients.

In closing, I want to thank our staff and volunteers for their individual and collective dedication to the provision of service to people affected by cancer. The support and direction of the Foundation's Board of Directors has been greatly appreciated.

P. H. Peters
Executive Director

Reports

Medical Director



The following observations represent continuance of some Foundation activities, and identification of new initiatives of a medical nature.

Educational opportunities during the year included the Third Canadian Psychosocial Oncology Conference, held in Saskatoon in April; the Gynecological Oncology Cancer Symposium, held in Saskatoon in June; and a Soft Tissue Sarcoma Symposium, held in Regina in November.

The Foundation, together with the Canadian Cancer Society, Saskatchewan Division, continued their joint financial commitment to the Division of Continuing Medical and Nursing Education (CME/CNE) of the College of Medicine. In addition to this financial support Foundation staff had significant involvement in the planning and presentation of CME/CNE cancer educational programming for physicians, nurses and other health care professionals in the province. This opportunity to teach is further enhanced for our physicians by their appointment within the College of Medicine, University of Saskatchewan. Here they play an important role in the undergraduate education of medical students and the post graduate education of resident staff.

There is a strong commitment to clinical research within the Foundation. This is evidenced by participation in protocols of the North Central Cancer Treatment Group and the National Cancer Institute of Canada, as well as privately funded pharmaceutical company programs.

Recruitment of certain professional staff for the Foundation continues to be difficult as we compete for short market specialists at a national and international level. However, recruitment efforts were successful in retaining a medical oncologist, Dr. Brian Norris, for the Saskatoon Cancer Clinic. At year end, recruitment efforts are continuing for a radiation oncologist, pediatric oncologist, physicist, and director of research at the Saskatoon Cancer Clinic, and a medical oncologist and physicist at the Allan Blair Memorial Clinic.

D. F. White
Medical Director

Allan Blair Memorial Clinic Report

Highlights

Medical staff changes in the Allan Blair Memorial Clinic during the year included the return of Dr. J. MacIntosh on a one-year appointment commencing in September to assist during a time of physician shortages. Dr. W. A. Bethune, radiation oncologist, resigned to assume a position in New York City.

The Clinic has continued to be actively involved with the North Central Cancer Treatment Group and the National Cancer Institute of Canada, with increasing numbers of patients entered into the Clinical Trials. Dr. Michael Poon has assumed the role of Principal Investigator for Saskatchewan in the North Central Cancer Treatment Group.

In other research and educational activities the reviews of treatment results for Hodgkin's Disease, cancer of the larynx and of the bladder have been completed. A symposium on soft tissue sarcomas was sponsored by the Clinic in the fall of 1987, with guest speakers from the Mayo Clinic in Rochester and the Bayview Clinic in Toronto.

The Clinic hosted the Western Canada Medical Physics Conference (WESCAN) in February, 1988. This successful endeavour was attended by physicians, physicists, technologists and technicians from the four western provinces.

Students in the Radiotherapy Technologist Training Program continued to receive the didactic portion of their instruction at the Princess Margaret Hospital in Toronto; however, plans are underway for this portion of the program to be moved to the Red River College, Winnipeg, under the Manitoba Cancer Treatment and Research Foundation. One student graduated from our program in September, 1987 and has joined our staff. There are currently one first year and two second year students in the program.

Renovations within the Clinic included the relocation of Medical Physics out of the existing radiotherapy area into an adjacent location. The construction, which came in on budget, was done largely utilizing staff of the Pasqua Hospital and the Clinic, and resulted in a welcome expansion to the Clinic facilities. Plans have proceeded to develop a children's playroom within the waiting area of the Clinic, utilizing these same work forces. This project will be undertaken with funds from the CKRM Good Neighbour Fund.

The Health Records Department is now involved in the training of first and second year students of the Health Record Technician Training Program at the Saskatchewan Institute of Applied Science and Technology in Regina.

The Social Work Department and the Candlelighters have developed an information package offering support to families and children undergoing treatment. The Department is co-operating with the Faculty of Social Work, University of Regina, to provide a three month preceptorship for one of their undergraduates on a regular basis. We again acknowledge the most welcome financial support from the Canadian Cancer Society, Saskatchewan Division, of the Personal Services Worker Program.

The Patient Lodge, now in its second year of operation, provides free accommodation for patients from outside Regina and is a valued service.

Allan Blair Memorial Clinic Report

	Patient Visits		
	1985	1986	1987
New Cases	1228	1365	1281
Review Cases	13165	15194	15839
Radiotherapy*		12848	13126
Chemotherapy*			3088

* A computer system was implemented in 1986 to collect basic information on radiotherapy treatments (cases, treatment visits and fields). A similar system for chemotherapy to collect information on the number of treatments and drugs administered was implemented in 1987.

	Number of Patients Treated by Radiation		
	1985	1986	1987
Linear Accelerator	431	672	871
Cobalt	503	157	14
X-ray	125	134	160
Interstitial/intracavitary	27	18	21
Gold Grains	3	1	1
Other (P32, I131)	3	18	10
Total	1092	1000	1077

	Patient Visits Outside the Clinic		
	1985	1986	1987
New Cases	1757	1685	1753
Reviews Reported	17218	16498	15451

The above cases are registered and followed by the cancer clinic through community physicians and are not normally seen in the clinic.

Allan Blair Memorial Clinic Report

Administration Staff

H. G. Whiston*	Director
J. A. Grill	Business Manager
A. M. Sweet	Assistant to Business Manager

Physicians

G. H. Ewing	M.B., Ch.B., M.R.C.P. (Ed.), F.R.C.P.(C)
T. S. Goh	M.B., B.S., F.R.C.P.(C)
M. S. Khan	M.B., B.S., D.M.R.T., F.F.R.
S. K. Liem	M.D., D.A.B.R., F.R.C.P.(C)
J. H. MacIntosh	M.D.
M. A. Poon	M.B., F.R.C.P.(C)
S. Rayson	M.B., B.S., F.R.C.P.(C)
L. J. Rodrigue	M.D., F.R.C.S.(C), D.A.B.S.
H. G. Whiston	M.B., Ch.B., D.M.R.T., F.R.C.P.(C)

Consultants

Pathology	
D. Dexter	M.R.C.Path., F.R.C.P.(C)
J. M. Vettters	M.D., F.R.C.P.(C), F.R.C.Path.

Physicists

P. A. Dickof	M.Sc., M.C.C.P.M.
G. M. Mawko	B.Sc., M.Sc.(A), Ph.D.
M. G. Schmid	B.Sc., M.Sc., M.C.C.P.M.
R. S. Sloboda	B.Sc., Ph.D., F.C.C.P.M.

Department Heads

H. G. Whiston	Head of Medical Oncology
M. S. Khan	Head of Radiation Oncology
P. A. Dickof	Chief Medical Physicist
V. Curtis	Head Nurse
E. Dietrich	Director of Health Records
B. Uncles	Medical Social Worker
D. Walrath	A/Chief Technologist
S. Murray	Patient Lodge Manager

* Resigned position of Director, March 31, 1988

Saskatoon Cancer Clinic Report

Highlights

After years of planning, followed by the sod turning ceremony in March, 1986, the Saskatoon Cancer Clinic stands on the threshold of moving into the new facility in the summer of 1988. Arrangements for moving to the new Clinic are requiring considerable staff resources through involvement in design work, equipment installation, planning for the move and procedural changes. The facility, encompassing 8,578 square metres, includes four radiotherapy treatment rooms and a clinical research lab of 980 square metres.

In the Medical Oncology Department, Dr. D. F. White from Nova Scotia and Dr. B. Norris from Newfoundland were welcome additions to fill medical staff vacancies. Dr. P. Joseph, radiation oncologist, resigned to accept a position in Nova Scotia.

Involvement in clinical trial research, which has an immediate and direct impact on patient care, continues in various areas and involves both medical and radiation oncologists. Participation in National Cancer Institute of Canada (NCIC) and North Central Cancer Treatment Group (NCCTG) co-operative clinical trials has been maintained. Pharmaceutical company sponsored trials are also in progress. A laboratory project concerning in-vitro characteristics of lymphoma and leukemia cells continues, in collaboration with the Department of Pathology, University of Saskatchewan.

Opportunities exist for medical and technical staff to maintain their skills through participation in conferences and workshops at a national and international level. Examples are attendance at the NCCTG group meetings, the Children's Cancer Study Group (CCSG) workshops and conferences such as The Annual Meeting of the American Society of Therapeutic Radiology and Oncology.

The Radiotherapy Technologist Training Program at the Saskatoon Cancer Clinic has one first year and two second year students enrolled. For the past four years, students have received the didactic portion of their training at the Princess Margaret Hospital in Toronto. In 1988, this portion will be undertaken at the Red River College in Winnipeg through the Manitoba Cancer Treatment and Research Foundation.

Physics staff are closely involved in the installation of two new linear accelerators and the diagnostic x-ray machine in the new Clinic. The department provides full maintenance support for radiation oncology equipment, including a dual purpose x-ray unit, a 120 kVp x-ray unit, an A.E.C.L. Theratron 80 cobalt unit, a Siemens 6 MeV linear accelerator, a Siemens 42 MeV betatron and an A.E.C.L. simulator. In addition to the Foundation requirements for physics services, the Clinic physicists support the Nuclear Medicine Department in University Hospital.

The personal services workers, who provide practical and emotional support to patients and their families, are funded through a grant from the Canadian Cancer Society, Saskatchewan Division.

The Patient Lodge, which provides free accommodation for patients from outside Saskatoon, is a valued service.

Saskatoon Cancer Clinic Report

Patient Visits

	1985	1986	1987
New Cases	1355	1519	1421
Review Cases	12160	13482	14351
Radiotherapy*		17106	15858
Chemotherapy*			2890

* A computer system was implemented in 1986 to collect basic information on radiotherapy treatments (cases, treatment visits and fields). A similar system for chemotherapy to collect information on the number of treatments and drugs administered was implemented in 1987.

Number of Patients Treated by Radiation

	1985	1986	1987
Betatron	136	140	138
Linear Accelerator	276	397	409
Cobalt	494	551	513
X-ray	59	27	42
Interstitial/intracavitary	25	19	8
Beta-ray		3	
Other (P32, I131)	28	22	16
Total	1018	1159	1126

Patient Visits Outside the Clinic

	1985	1986	1987
New Cases	1615	1583	1751
Reviews Reported	19210	20423	18757

The above cases are registered and followed by the cancer clinic through community physicians and are not normally seen in the clinic.

Saskatoon Cancer Clinic Report

Administration Staff

D. F. White*	Director
O. Belovanoff	Business Manager
M. M. Wood	Assistant to Business Manager

Physicians

G. R. Armitage	M.D., F.R.C.P.(C)
N. Jha	M.B.B.S.
I. M. MacLennan	M.B., Ch.B., D.A.B.R.(T)
D. G. McGowan	M.B., Ch.B., D.M.R.T., F.R.C.P.(C)
A. W. Maksymiuk	M.D., F.R.C.P.(C)
M. F. Mohamed	M.B.B.S., D.M.R.T., F.R.C.R.
A. Naidoo	M.B., Ch.B.
B. D. Norris	B.Sc., M.D., F.R.C.P.(C)
D. F. White	M.D., F.R.C.P.(C)
M. Binder**	M.D.
R. T. Card**	M.D., F.R.C.P.(C)
H. I. Krespin**	M.D., F.R.C.P. (C)
S. Padmanabh**	M.B.B.S., D.C.P., F.R.C.P.(Ed.), F.R.C.P.(C)
D. R. Popkin**	B.Sc., M.D., C.M., F.R.C.S.(C), F.A.C.O.G.
D. P. Sheridan**	M.D., F.R.C.P.(C)
L. F. Skinnider**	M.B., F.R.C.P.(C)

Consultants

Pathology	
H. J. Block	F.R.C.P.(C)
H. E. Emson	F.R.C.P.(C)
Diagnostic Radiology	
G. Bray	D.M.R.D., F.R.C.P.(C)
C. S. Houston	M.D., F.R.C.P.(C), F.A.C.R.
J. G. Monks	F.C.C.P., B.A.O., D.M.R.D., F.R.C.P.(C)

Physicists

W. B. Reid	B.A., M.A., Ph.D., F.C.C.P.M.
A. D. Baillie	B.Sc., Ph.D., F.C.C.P.M.
R. H. Hummel	B.Sc., (EE), M.Sc., Ph.D., M.C.C.P.M.

Department Heads

A. W. Maksymiuk	Head of Medical Oncology
D. G. McGowan	Head of Radiation Oncology
W. B. Reid	Chief Medical Physicist
S. Cianflone	Head Nurse
V. Runquist	Director of Health Records
H. Walker	Chief Technologist
E. Skinner	Medical Social Worker
J. Gravel**	Dietitian
V. Klusa	Patient Lodge Manager

* Assumed position July 1, 1987

** Part Time

Statistical Tables

New Cancers by Site, Sex and Age Group — 1987

SITE	Sex	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total
Lip	M	0	0	0	0	0	0	1	0	2	2	2	5	10	9	11	8	4	4	58
	F	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	1	2	0	8
Oral Cavity	M	0	0	0	0	0	1	1	0	3	0	2	5	8	3	1	3	1	0	28
	F	0	0	0	0	0	0	0	2	1	1	1	1	2	4	3	3	2	1	21
Pharynx and Nasopharynx	M	0	0	0	1	0	0	0	0	0	2	1	3	3	0	0	1	0	0	11
	F	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	3
Oesophagus	M	0	0	0	0	0	0	1	1	0	1	2	2	3	7	1	2	3	1	24
	F	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	1	4	8
Stomach	M	0	0	0	0	0	0	0	0	1	2	2	7	9	13	11	13	15	4	77
	F	0	0	0	0	0	0	0	0	0	1	2	0	3	4	7	8	6	3	34
Small Intestine	M	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	2	1	0	6
	F	0	0	0	0	0	0	0	0	1	0	2	0	1	0	1	0	0	0	5
Colon	M	0	0	0	0	0	0	1	0	5	4	5	13	18	29	24	29	22	16	166
	F	0	0	0	0	0	0	0	1	3	3	10	12	24	32	31	19	18	156	
Rectum	M	0	0	0	0	0	0	1	0	0	2	3	15	15	19	23	19	15	7	119
	F	0	0	0	0	0	0	1	0	0	6	5	5	7	19	9	12	10	7	81
Liver	M	1	0	0	0	0	0	0	0	0	0	2	1	6	3	6	4	4	4	31
	F	0	0	0	0	0	0	0	0	1	1	2	1	6	4	7	5	3	30	
Pancreas	M	0	0	0	0	0	0	0	0	1	3	2	3	6	6	19	8	4	7	59
	F	0	0	0	0	0	1	0	0	0	1	1	7	5	5	8	6	8	4	46
Larynx	M	0	0	0	0	0	0	0	0	0	1	2	5	6	5	6	2	1	0	28
	F	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0	2	6
Lung	M	0	0	0	0	0	0	1	3	16	9	21	56	73	56	47	27	26	335	
	F	0	0	0	0	0	0	1	4	8	6	10	17	26	38	25	21	12	7	175
Breast	M	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
	F	0	0	0	0	1	1	9	18	27	39	43	50	64	55	54	55	34	26	478
Prostate	M	0	0	0	0	0	0	0	0	0	0	2	18	37	72	89	98	77	49	442
	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Testis	M	1	0	1	3	3	3	3	3	3	1	2	4	2	0	1	0	0	0	30
	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Male Organs	M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cervix (Invasive)	M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	F	0	0	0	0	1	1	4	4	9	2	4	2	3	2	2	2	0	4	40
Cervix (In-situ)	M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	F	0	0	0	0	3	13	10	10	9	1	2	3	1	3	0	1	0	0	56
Uterus	M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	1	3	2	4	5	11	17	19	16	7	1	6	92
Ovary	M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	F	0	0	0	1	0	2	3	3	1	6	7	10	9	10	11	6	7	5	81
Other Female Organs	M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	F	0	0	0	0	0	0	0	0	2	1	0	0	1	1	1	0	5	5	16
Other Urinary Organs	M	0	0	0	0	0	0	0	0	3	4	6	2	10	11	10	8	8	4	66
	F	2	0	0	0	0	0	0	1	0	2	3	4	9	3	7	4	3	4	42
Urinary Bladder	M	0	0	0	0	0	1	1	1	1	6	5	6	24	24	33	36	16	16	170
	F	0	1	0	0	0	1	0	2	1	1	4	5	7	8	6	8	5	4	53
Malignant Melanoma (Skin)	M	0	0	0	1	2	3	7	2	3	7	3	1	4	8	3	1	1	1	47
	F	0	0	0	0	2	4	8	6	7	7	5	3	4	6	5	1	0	2	60
Skin	M	0	0	0	0	3	9	8	12	26	29	50	75	107	157	151	166	109	106	1,006
	F	0	0	0	0	3	7	11	13	17	18	22	40	74	81	92	129	90	114	711
Brain and Nervous System	M	0	0	1	1	0	2	3	0	4	2	4	3	7	6	1	3	2	0	39
	F	0	0	1	0	0	1	0	0	1	2	0	2	5	2	2	3	1	0	20
Thyroid	M	0	0	0	0	0	1	0	0	1	1	1	0	0	1	1	0	1	0	7
	F	0	0	0	0	1	3	1	4	6	2	2	1	2	2	0	3	2	1	30
Bone and Cartilage	M	0	0	0	3	1	1	1	0	0	0	0	1	1	0	0	0	0	0	8
	F	0	0	0	0	0	0	0	0	1	1	1	0	0	1	1	0	0	0	5
Soft Tissue	M	0	0	0	0	1	3	0	1	0	0	0	0	3	1	1	2	0	0	12
	F	0	0	0	0	0	0	2	0	1	1	0	2	1	1	2	0	0	0	10
Hodgkin's Disease	M	0	0	0	1	2	4	4	0	1	0	1	0	0	0	1	0	0	0	14
	F	0	0	1	0	5	2	2	0	0	0	0	0	1	0	1	0	1	0	13
Lymphoid Tissue	M	0	1	0	1	1	1	1	3	0	2	2	10	11	7	10	8	11	5	74
	F	0	0	1	1	0	0	0	3	1	4	9	7	8	8	11	6	6	5	70
Leukemia	M	4	2	3	4	0	1	1	2	2	3	9	2	5	10	10	14	6	6	84
	F	0	0	2	2	1	0	0	0	0	0	5	2	5	6	8	5	6	4	46
Multiple Myeloma	M	0	0	0	0	0	0	0	1	0	1	0	5	3	5	8	5	2	3	33
	F	0	0	0	0	0	0	0	0	1	0	2	0	1	3	0	3	1	2	13
Miscellaneous	M	3	0	0	0	2	0	2	2	0	1	0	3	7	4	2	1	2	0	29
	F	1	0	0	0	1	2	0	0	1	3	2	2	1	0	3	0	2	2	21
Primary Unknown	M	0	0	0	0	0	0	0	0	0	0	1	0	4	0	5	2	1	0	13
	F	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3	1	1	2	8
Secondary Site	M	0	0	0	0	0	0	1	0	1	2	0	6	7	12	8	7	4	2	50
	F	0	0	0	0	0	0	0	1	1	1	3	4	7	6	6	8	3	4	44
In-situ Cancers	M	0	0	0	0	0	0	1	1	1	4	7	5	14	16	17	21	6	9	102
	F	0	0	0	0	0	0	2	1	8	4	4	10	8	11	13	17	9	4	91
Total — All Sites	M	9	3	5	15	15	30	38	30	62	96	125	221	388	502	511	512	343	270	3,175
	F	3	1	5	4	18	38	56	76	110	118	149	202	267	336	332	353	240	243	2,571
Total		12	4	10	19	33	68	94	106	172	214	274	423	675	838	843	865	583	513	5,746

Statistical Tables

Incidence of Cancer Per 100,000 Population — 1987

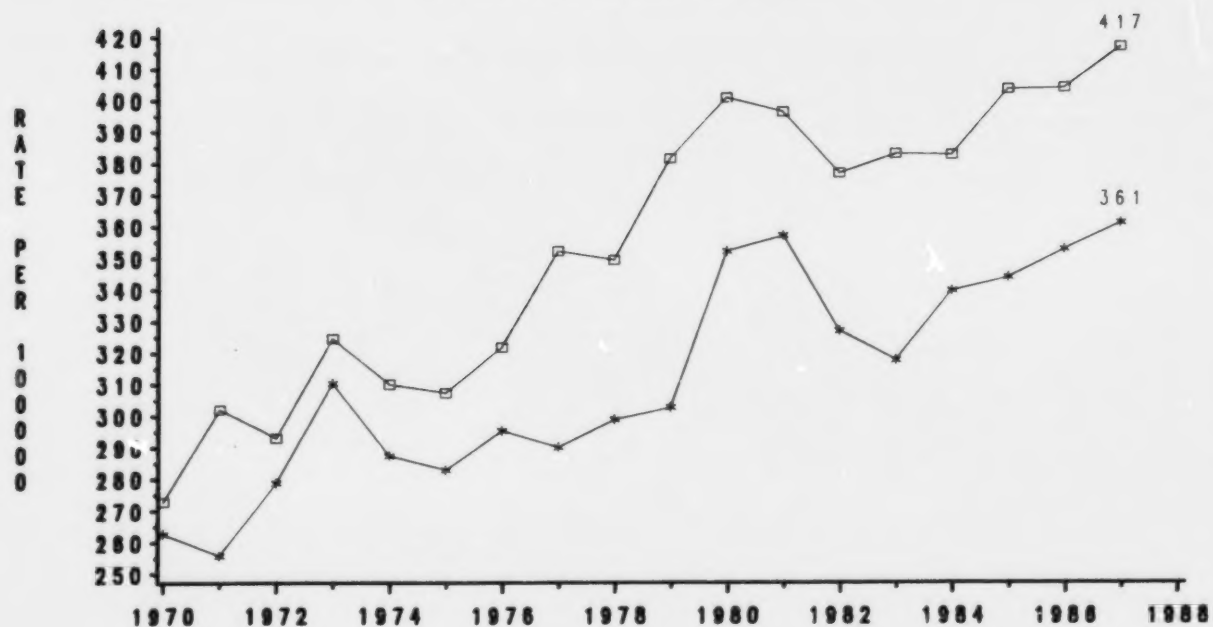
Site	Total Population (1) 1987		Population at Risk (2) 1987	
	Male	Female	Male	Female
Lip	11.0	1.5	27.1	3.6
Oral Cavity	5.3	4.0	13.1	9.4
Pharynx and Nasopharynx	2.1	0.6	5.1	1.3
Oesophagus	4.6	1.5	11.2	3.6
Stomach	14.7	6.5	36.0	15.2
Small Intestine	1.1	1.0	2.8	2.2
Colon	31.6	30.0	77.7	69.8
Rectum	22.7	15.6	55.7	36.2
Liver	5.9	5.8	14.5	13.4
Pancreas	11.2	8.8	27.6	20.6
Larynx	5.3	1.2	13.1	2.7
Lung	63.8	33.6	156.7	78.3
Breast	0.4	91.4	0.9	212.9
Prostate	84.2	0.0	206.8	0.0
Testis*	5.7	0.0	7.6	0.0
Other Male Organs	0.6	0.0	1.4	0.0
Cervix (Invasive) †	0.0	7.7	0.0	11.2
Cervix (In-Situ) †	0.0	10.8	0.0	15.7
Uterus	0.0	17.7	0.0	41.2
Ovary	0.0	15.6	0.0	36.2
Other Female Organs	0.0	3.1	0.0	7.2
Other Urinary Organs	12.6	8.1	30.9	18.8
Urinary Bladder	32.4	10.2	79.5	23.7
Malignant Melanoma (skin)	9.0	11.5	22.0	26.8
Skin	192.0	136.6	471.5	318.0
Brain and Nervous System	7.4	3.8	18.2	8.9
Thyroid	1.3	5.8	3.3	13.4
Bone & Cartilage	1.5	1.0	3.7	2.2
Soft Tissue	2.3	1.9	5.6	4.5
Hodgkin's Disease*	2.7	2.5	3.5	3.3
Lymphoid Tissue	14.1	13.4	34.6	31.3
Leukemia	16.0	8.8	39.3	20.6
Multiple Myeloma	6.3	2.5	15.4	5.8
Miscellaneous	5.5	4.0	13.6	9.4
Primary Unknown	2.5	1.5	6.1	3.6
Secondary Site	9.5	8.5	23.4	19.7
In-situ Cancers	19.4	17.5	47.7	40.7
Total — All Sites	604.9	493.9	1,485.2	1,150.0
Total — All Sites — Both Sexes	549.6		1,313.9	

Note: (1) Population Statistics, 1987 based on Saskatchewan Health Covered Population, 1987.

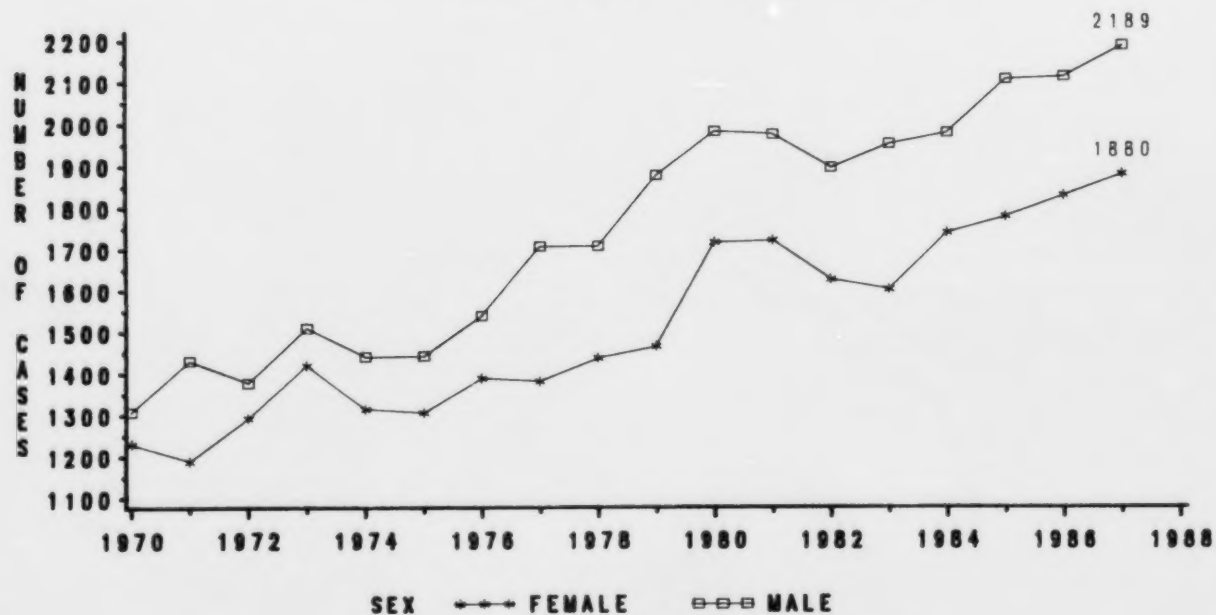
(2) Population at Risk is 35 years of age and older, except for: *15 years of age and older, †20 years of age and older.

Statistical Tables

PROVINCIAL INCIDENCE



NUMBER OF CASES



SEX *-*-* FEMALE --- MALE
NON-MELANOMA SKIN CASES EXCLUDED

Financial Statements

Year Ended March 31, 1988

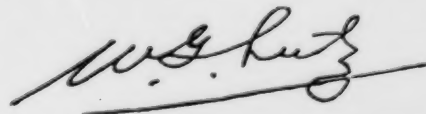
AUDITOR'S REPORT

To the Members of the Legislative Assembly
Province of Saskatchewan

I have examined the balance sheet of the Saskatchewan Cancer Foundation as at March 31, 1988 and the statements of revenue and expenditure and fund balance for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

In my opinion, these financial statements present fairly the financial position of the Saskatchewan Cancer Foundation as at March 31, 1988 and the results of its operations and changes in financial position for the year then ended in accordance with the accounting principles disclosed in Note 2 to the financial statements applied on a basis consistent with that of the preceding year.

Regina, Saskatchewan
July 8, 1988



W. G. Lutz, F.C.A.
Provincial Auditor

Financial Statements

Year Ended March 31, 1988

Statement 1

SASKATCHEWAN CANCER FOUNDATION

BALANCE SHEET

As At March 31

	1988					1987
	General Fund	Major Equipment Grant Fund	Saskatoon Clinic Construction Fund	Research Fund	Trust Fund	Total
Assets						
Current:						
Cash and short-term investments	\$ 2,139,984	\$ —	\$ —	\$ 505,451	\$ 874,221	\$ 3,519,656
Accounts receivable:						
— Department of Health	500,622	—	—	—	—	500,622
— Other and accrued interest (Note 9)	269,136	219,808	—	27,275	7,363	523,582
Prepaid Expenses	35,983	—	—	6,187	—	42,170
	2,945,725	219,808	—	538,913	881,584	4,586,030
Fixed Assets (Note 4)	23,773,948	—	—	145,503	—	23,919,451
	<u>\$ 26,719,673</u>	<u>\$ 219,808</u>	<u>\$ —</u>	<u>\$ 684,416</u>	<u>\$ 881,584</u>	<u>\$ 28,505,481</u>
Liabilities and Equity						
Liabilities:						
Accounts Payable:						
— Trade	\$ 1,111,778	\$ 219,808	\$ —	\$ 8,870	\$ 10,987	\$ 1,351,443
— Construction of Saskatoon Cancer Clinic	—	—	424,550	—	—	424,550
Deferred revenue	4,160	—	—	—	—	4,160
Due to (from) other funds	756,054	(746,508)	(13,092)	—	3,546	—
	1,871,992	(526,700)	411,458	8,870	14,533	1,780,153
Equity:						
Fund balance (Statement 3)	24,847,681	746,508	(411,458)	675,546	867,051	26,725,328
	<u>\$ 26,719,673</u>	<u>\$ 219,808</u>	<u>\$ —</u>	<u>\$ 684,416</u>	<u>\$ 881,584</u>	<u>\$ 28,505,481</u>
						<u>\$ 22,974,352</u>

(See accompanying notes to the financial statements)

Financial Statements

Year Ended March 31, 1988

SASKATCHEWAN CANCER FOUNDATION STATEMENT OF REVENUE AND EXPENDITURE Year Ended March 31

Statement 2

	1988					1987	
	General Fund	Major Equipment Grant Fund	Saskatoon Clinic Construction Fund	Research Fund	Trust Fund	Total	Total
Revenue:							
Grants — Department of Health	\$ 16,532,250	\$ 1,000,000	\$ —	\$ 358,750	\$ —	\$ 17,891,000	\$ 17,211,250
— Saskatoon Clinic Construction (Note 7)	—	—	7,179,100	—	—	7,179,100	6,667,113
— Other	82,700	—	—	76,984	—	159,684	123,832
Donations and bequests	—	—	—	—	196,153	196,153	139,094
Investment income	233,776	60,921	6,878	36,947	73,185	411,707	434,090
Other income	279,667	—	—	—	—	279,667	247,439
	<u>17,128,393</u>	<u>1,060,921</u>	<u>7,185,978</u>	<u>472,681</u>	<u>269,338</u>	<u>26,117,311</u>	<u>24,822,818</u>
Expenditure:							
Clinics and general administration							
Salaries and employee benefits	7,057,107	—	—	—	—	7,057,107	7,028,559
Medical services	4,614,321	—	—	—	—	4,614,321	4,703,646
Drugs and medical supplies	2,434,707	—	—	—	—	2,434,707	2,059,481
Purchased services							
— laboratory services	354,222	—	—	—	—	354,222	304,257
— diagnostic radiology	449,095	—	—	—	—	449,095	458,743
— isotope services	252,151	—	—	—	—	252,151	193,230
— operating room services	70,375	—	—	—	—	70,375	56,914
Computer services	147,263	—	—	—	—	147,263	160,740
Consultant fees	—	—	—	—	—	—	1,295
Building, equipment and leasehold alterations	118,732	1,752,127	5,777,310	—	269,298	7,917,467	9,830,274
Postage, printing and stationery	125,327	—	—	—	559	125,886	104,931
Repairs and maintenance of equipment	243,053	—	—	—	—	243,053	95,337
Telephone	95,693	—	—	—	—	95,693	89,016
Travel and staff development	96,789	—	—	—	3,694	100,483	112,568
Other expenditures	447,962	—	—	—	9,389	457,351	405,890
Patient lodges (Note 8)							
Salaries and employee benefits	283,597	—	—	—	—	283,597	284,587
Other lodge operating costs	184,367	—	—	—	—	184,367	171,253
Grants:							
Research grants (Schedule 1)	—	—	—	393,065	—	393,065	433,851
Trust Fund grants	—	—	—	—	36,744	36,744	36,890
	<u>16,974,761</u>	<u>1,752,127</u>	<u>5,777,310</u>	<u>393,065</u>	<u>319,684</u>	<u>25,216,947</u>	<u>26,531,462</u>
Excess of revenue over expenditure (expenditure over revenue)							
— to Statement 3	\$ 153,632	\$ (691,206)	\$ 1,408,668	\$ 79,616	\$ (50,346)	\$ 900,364	\$ (1,708,644)

(See accompanying notes to the financial statements)

Financial Statements

Year Ended March 31, 1988

SASKATCHEWAN CANCER FOUNDATION STATEMENT OF FUND BALANCE Year Ended March 31

Statement 3

	1988					1987	
	General Fund	Major Equipment Grant Fund	Saskatoon Clinic Construction Fund	Research Fund	Trust Fund	Total	Total
Accumulated surplus:							
Balance, beginning of year	\$ 899,479	\$ 1,437,714	\$ (1,820,126)	\$ 450,427	\$ 917,397	\$ 1,884,891	\$ 3,593,535
Add (deduct): Excess of revenue over expenditure (expenditure over revenue) (Statement 2)	153,632	(691,206)	1,408,668	79,616	(50,346)	900,364	(1,708,644)
	1,053,111	746,508	(411,458)	530,043	867,051	2,785,255	1,884,891
Add: Final settlement payment — previous year	20,622	—	—	—	—	20,622	—
Balance, end of year	1,073,733	746,508	(411,458)	530,043	867,051	2,805,877	1,884,891
Equity in fixed assets:							
Balance, beginning of year	16,727,810	—	—	138,898	—	16,866,708	7,947,237
Add: Fixed assets purchased by:							
— General Fund - net of disposals	120,922	—	—	—	—	120,922	170,957
— Major Equipment Grant Fund	1,752,127	—	—	—	—	1,752,127	—
— Saskatoon Clinic Construction Fund	5,777,310	—	—	—	—	5,777,310	9,650,773
— Research Fund (Note 5)	—	—	—	42,555	—	42,555	22,947
— Trust Fund	269,298	—	—	—	—	269,298	7,644
Fixed assets donated	—	—	—	—	—	—	2,709
	24,647,467	—	—	181,453	—	24,828,920	17,802,267
Deduct:							
Provision for depreciation	(873,519)	—	—	(35,950)	—	(909,469)	(935,559)
Balance, end of year	23,773,948	—	—	145,503	—	23,919,451	16,866,708
Fund balance, end of year							
— to Statement 1	\$ 24,847,681	\$ 746,508	\$ (411,458)	\$ 675,546	\$ 867,051	\$ 26,725,328	\$ 18,751,599

(See accompanying notes to the financial statements)

Financial Statements

Year Ended March 31, 1988

SASKATCHEWAN CANCER FOUNDATION NOTES TO THE FINANCIAL STATEMENTS

March 31, 1988

1. Legal Status of the Saskatchewan Cancer Foundation

The Foundation was created under provisions of The Saskatchewan Cancer Foundation Act, 1979 and commenced operations on August 1, 1979.

Under Section 38(1) of the Act, the Foundation acquired ownership of the assets and rights and assumed responsibility for the debts, liabilities, and obligations of the Government of Saskatchewan and the Saskatchewan Cancer Commission relating to the operations of the clinics in Regina and Saskatoon under The Cancer Control Act.

2. Significant Accounting Policies

a) Fixed Assets and Depreciation

The Saskatchewan Cancer Foundation utilizes fund accounting wherein all revenues and expenditures including those for fixed assets appear in the statement of revenue and expenditure. To maintain accountability for fixed assets, it is necessary to record them as assets with a corresponding entry to "equity in fixed assets". All fixed assets costing \$100 or more are recorded in this manner.

Fixed assets purchased through the Major Equipment Grant Fund, the Saskatoon Clinic Construction Fund and the Trust Fund are presented as assets of the General Fund. These acquisitions are not included in the fixed asset expenditures of the General Fund but are recorded as expenditures in the Fund to which they apply. Assets purchased by the Research Fund are recorded as assets to that Fund. Donated assets are recorded at their estimated cost in the General Fund as a credit to "equity in fixed assets".

Fixed assets of the Foundation are depreciated on a straight-line basis over their estimated useful lives at rates ranging from 5% to 20% per annum.

As the acquisition of fixed assets is primarily financed by government grants, a provision for depreciation is not charged to operations but is charged to "equity in fixed assets" to reflect the decrease in the undepreciated cost of the fixed assets.

b) Grant Revenue and Final Settlement Adjustments

Grant revenue from the Department of Health is recorded on the accrual basis exclusive of any adjustments that may be determined by the Department of Health during its final settlement review subsequent to the current fiscal year.

In accordance with the funding policy of the Department, any operating surplus, exclusive of donations and investment income, is repayable to the Department after the final settlement review is complete. A deficit on operations is the responsibility of the Foundation unless a prior commitment for reimbursement has been recognized by the Department.

Any surplus repayable or deficit recoverable are recorded in the year the final settlement review is completed as an adjustment to accumulated surplus.

c) Research Grants

Research grants awarded by the Foundation to aid in funding approved research projects are charged to expenditure in the year in which costs are incurred on the projects.

Financial Statements

Year Ended March 31, 1988

d) Donations

All donations are treated as revenue of the Trust Fund, which has specifically been established to administer such revenue and related expenditures.

Certain contributions to the Trust Fund are designated by the contributors to be used for such purposes as cancer research, equipment and library books. The Foundation maintains a record of the funds contributed and spent for each of the designated purposes until such funds are fully utilized (See Note 3).

e) Investment Income — Major Equipment Grant Fund and Saskatoon Clinic Construction Fund

Unexpended monies of the Major Equipment Grant Fund and of the Saskatoon Clinic Construction Fund held in the General Fund, are invested in short-term securities. The interest derived from these investments is credited to the relevant fund.

3. Restricted Trust Funds

At March 31, 1988, a balance of \$160,645 (\$270,821 at March 31, 1987) remained to be used for the purposes designated by the contributors.

4. Fixed Assets

	1988		1987	
	Cost	Accumulated Depreciation	Net Book Value	Net Book Value
a) General Fund				
Land & improvements	\$ 285,002	\$ 2,103	\$ 282,899	\$ 283,338
Buildings	2,863,558	478,059	2,385,499	2,525,833
Asset under construction	15,130,133	—	15,130,133	10,357,591
Leasehold alterations	568,611	204,355	364,256	402,771
Equipment & furniture	10,181,156	4,569,995	5,611,161	3,158,277
	<u>\$ 29,028,460</u>	<u>\$ 5,254,512</u>	<u>\$ 23,773,948</u>	<u>\$ 16,727,810</u>
b) Research Fund				
Equipment and furniture	<u>\$ 296,046</u>	<u>\$ 150,543</u>	<u>\$ 145,503</u>	<u>\$ 138,898</u>

5. Research Fund

The Department of Health has provided grants to enable the Foundation to support a number of research projects. The Department has attached the following guidelines to the grants:

- expenditure of grant funds will be at the discretion of the Foundation. The Foundation will assume responsibility for research costs in excess of the amount granted;
- research funds, including investment income on the funds, will be kept separate from other funds of the Foundation.

The Foundation has met these guidelines by establishing the Research Fund, separate from other funds of the Foundation, from which research grants are made.

Included in Research Grants are expenditures totalling \$42,555 (1987 - \$22,947) for fixed assets required for certain research projects. Ownership of these assets is retained by the Foundation.

Financial Statements

Year Ended March 31, 1988

At March 31, 1988, the Research Fund was committed to expenditures totalling \$263,489 (\$292,821 at March 31, 1987), being the unexpended portion of approved research project awards.

6. Major Equipment Grant Fund

The Department of Health has advised the Foundation of its intention to provide grant funds totalling \$5,000,000 for the acquisition of certain major equipment in the period 1983 to 1988. These grant funds are to be paid in semi-annual installments of \$500,000 commencing July 1, 1983. The funds are to be accounted for separately from other equipment grants made through the regular budgetary process thereby permitting any unexpended funds from a preceding year to be carried forward.

At March 31, 1988, there were commitments of \$320,000 (1987 - \$2,122,654) for major equipment.

7. Saskatoon Clinic Construction Fund and Saskatchewan Property Management Corporation

Similar to the Major Equipment Fund, the funds for the Saskatoon Clinic Construction are to be accounted for separately from other funding made through the regular budgetary process.

Funding for capital projects is arranged through an agreement with the Saskatchewan Property Management Corporation (SPMC) and the Province of Saskatchewan. Under the terms of the agreement, the repayment requirements of the obligation and the interest rate applicable to the funding received are determined from time to time by the Minister of Finance. The agreement states that the obligation of the Saskatchewan Cancer Foundation (SCF) is limited to an amount equal to the funds received from the Province for this repayment purpose and also provides for the repayment of these funds by the Province directly to SPMC on behalf of the SCF. Due to the nature of this agreement, no liability is recorded in the financial statements of the SCF. Loan proceeds from SPMC are recorded as capital grants in the year in which they are received. The remaining approved capital grant of \$635,309 will be received in 1988-89.

The balance of loans outstanding including accrued interest with respect to this financing arrangement at March 31, 1988 was \$17,156,959 (March 31, 1987 - \$8,708,474).

As at March 31, 1988, commitments of \$44,000 (1987 - \$5,000,000) remain towards the construction of the facility.

8. Cancer Patient Lodges

The Canadian Cancer Society, Saskatchewan Division, has donated two cancer patient lodges in the province to the Foundation. Under the terms of the agreement with the Society, the Foundation has assumed responsibility for the operations of these lodges. Title to the property will remain with the Foundation so long as they are operated as cancer patient lodges.

Title to the property for the 28 bed fully equipped lodge in Saskatoon was transferred to the Foundation in 1983-84. The estimated cost of this lodge's land, building and equipment is \$1,443,333.

The 28 bed fully equipped lodge in Regina was donated in 1985-86, with the final agreement and transfer of title occurring in April, 1986. The estimated cost of this lodge's land, building and equipment is \$1,848,392.

In accordance with the accounting policy of the Foundation, the above lodges are recorded in these financial statements as "Fixed Assets" and "Equity in Fixed Assets."

Financial Statements

Year Ended March 31, 1988

9. Related Party Transactions

Included in these financial statements are expense amounts resulting from transactions conducted with the hospitals in which the cancer clinics are located. Account balances resulting from these transactions are included in the statement of financial position and are settled on normal trade terms.

In addition, in accordance with signed agreements with the hospitals in which the cancer clinics are located, the Foundation has not been charged with occupancy costs relating to the clinics, but leases the clinics for \$1 each per year.

Included in accounts receivable - other and accrued interest - is an amount of \$188,400 receivable from the South Saskatchewan Hospital Center relating to the funds advanced to the Center for renovations at the Allan Blair Memorial Clinic. These funds were repaid by the Center subsequent to year end.

SASKATCHEWAN CANCER FOUNDATION RESEARCH FUND SCHEDULE OF RESEARCH GRANTS

Schedule 1

Year Ended March 31

	1988	1987
Participation in North Central Cancer Treatment Group	\$ 81,899	\$ 72,809
Extension of Treatment Planning Function, Regina	30,267	30,533
Lung Cancer and Farming Study, Saskatoon	1,198	28,455
Chemotherapeutic Agents in Patients, Saskatoon	790	4,059
Radiotherapy Automation Project, Regina	37,442	33,569
Participation in Children's Cancer Study Group	58,292	49,057
Participation in Radiation Therapy Oncology Group	9,381	32,975
Leukemias and Non-Hodgkin's Lymphomas, Saskatoon	15,348	22,389
Review of Treatment Results, Regina	13,379	22,460
Skin Cancer in Saskatchewan, Saskatoon	—	1,380
Dynamic Cardiac Phantom, Regina	(41)	41
Radiation Area Surveillance System, Saskatoon	93	361
Digital Imaging Techniques, Saskatoon	—	651
Dose Calculation, Regina	19,953	30,530
Flow Cytometer/Cell Sorter, Saskatoon	4,191	11,828
Digital Imaging of Megavoltage Photon Beams, Saskatoon	2,359	6,126
Evaluation of In Vitro Chemosensitivity, Regina	58,152	42,550
Workshop on Convolution Methods, Regina	—	11,060
Software Infrastructure Development, Saskatoon	9,778	24,637
Dietitian Participation in North Central Cancer Treatment Group, Saskatoon	7,656	4,019
Cancer in Saskatchewan, A Statistical Evaluation, Regina	18,598	4,362
Philips SL25 - Related Software Development, Saskatoon	17,396	—
Development of Quantitative Radionuclide Cardiology, Regina	6,934	—
	<u>\$ 393,065</u>	<u>\$ 433,851</u>

Research Projects

Funded by the Saskatchewan Cancer Foundation Research Fund

Participation In North Central Cancer Treatment Group (NCCTG)

Poon, M. A. and Maksymiuk, A. W., in collaboration with the medical staff of the Saskatoon Cancer Clinic and the Allan Blair Memorial Clinic, Regina.

From May 1, 1987 to April 30, 1988, 50 patients were entered on cancer treatment trials and 190 patients were enrolled in cancer control trials in this Mayo Clinic based co-operative clinic trial group.

Dr. D. G. McGowan continues as Chairman of the NCCTG Radiation Therapy Committee. Dr. A. W. Maksymiuk serves as Chairman of the Small Cell Lung Cancer Protocol. Dr. M. A. Poon is Chairman of the Advanced Colorectal Protocol. Dr. Poon and Dr. McGowan attended the NCCTG Executive Committee Meeting. The Fall of 1987 NCCTG meeting in Rochester was attended by 11 Clinic staff members, and four staff members attended the Spring 1988 meeting.

Participation in Children's Cancer Study Group

McGowan, D. G. and Goh, T. S.

During the year, patient entry requirements were met with the Allan Blair Memorial Clinic commencing its participation in the study. In November, 1987, the investigators were advised by the Office for Protection from Research Risks that participation had been suspended due to non-compliance with their revised criteria. Steps are being taken to reactivate participation.

Retrospective Analysis Of Treatment Results At The Allan Blair Memorial Clinic

Bethune, W. A., Ewing, G. H., Liem, S. K., and Poon, M. A.

This project studied the treatment results of four diseases — cancer of the bladder, larynx, rectum and Hodgkin's Disease. The bladder and Hodgkin's Disease studies are still outstanding and should be completed during the next year.

Enhancement Of Treatment Planning Function

Dickof, P. A. and Winnicki, A.

Treatment planning systems are used to model the distribution of radiation administered in radiotherapy treatments. To date, the calculations and displays show only the dose in a single specific plane. The work done to date allows the calculation of dose at any point in a volume and on arbitrary planes. In addition, it is possible to display the dose in any plane. Work continues on representing the treatment beams and on providing a user interface to this facility.

Research Projects

Funded by the Saskatchewan Cancer Foundation Research Fund

Leukemias and Non-Hodgkins Lymphomas

Skinninger, L. F. and Maksymiuk, A. W.

In the past year, surface marker profiles have been carried out on 58 cases of leukemias and lymphomas, including blood, bone marrow and lymph node specimens. The results have been used in decisions regarding management of patients.

The immunoglobulin gene rearrangement with JH probe has been assessed in 14 cases.

Investigation has been conducted into the response of lymphocytes and blast cells from patients with chronic lymphocytic leukemia and acute lymphoblastic leukemia to the agent cytochalasin D. Comparison has been made of their surface membrane response by electron microscopy to that of normal lymphoid cells.

Radiotherapy Automation Project

Schmid, M. G.

Construction of a new water phantom controller is essentially complete. This new controller contains advanced features that were previously not available in these machines which allow much of the process of commissioning a new linear accelerator to be automated. The design of this advanced controller has spawned new ideas in the area of automated dosimetry.

The development of a radiotherapy portal imaging device is ongoing. The object is to build a device that will be used to monitor patient position during radiotherapy treatments.

Dose Calculation Using Convolution Techniques

Dickof, P. A. and Mackie, T. R.

The purpose of this project is to produce a clinical implementation of the convolution/superposition method of dose calculation.

In the past year, an interface between the dose calculation program and the treatment planning system has been produced. This allows clinical data to be used for producing convolved doses in a multi-step process. This now provides a complete route for performing calculations, from the input of patient data from the treatment planning systems to the output and display of a calculated dose distribution from the convolution program.

A display showing the contour along with the dose distribution has been provided, allowing one to see that the calculations are done correctly.

Research Projects

Funded by the Saskatchewan Cancer Foundation Research Fund

Flow Cytometer/Cell Sorter Facility

Warrington, R. C.

This project provides continued support for the flow cytometer/cell sorter facility used by cancer researchers at the University of Saskatchewan. Specifically, the project is utilized for the salary of the devoted-operator. The facility is based upon a sophisticated research instrument, the EPICS V from Coulter Electronics, which permits a large number of cellular-studies of relevance to a wide range of medical-sciences investigators. For example, the instrument has direct applicability in the general areas of cellular biology, immunology, hematology, biotechnology, differentiation and development. Its major and current focus, however, is its applicability to numerous aspects of the human cancer problem.

The University of Saskatchewan flow cytometer/cell sorter facility is used by cancer researchers whose projects vary considerably. Dr. Warrington, for example, is investigating new modalities of cancer chemotherapy, while Dr. Dimmock is producing new antineoplastic agents. Dr. Skinnider's research employs clinical material in studies of directly applied cancer research. In contrast, the projects of Drs. Qualtiere, Carlsen and Laferte are somewhat more basic in nature. This diversity notwithstanding, the focal point of all of the projects is ultimately directed at improved management and/or detection of human cancer.

Evaluation Of In Vitro Chemosensitivity

Goh, T. S. and Kirkpatrick, D. L.

Two *in vitro* assays are being evaluated in an effort to predict individual patient response to chemotherapy. Biopsy samples from patients attending the Allan Blair Memorial Clinic are being screened for sensitivity to single drugs or drug combinations. The aim is to allow the clinician to choose agents which have demonstrated *in vitro* effects on an individual's cancer cells, hoping to lead to better *in vitro* response. Exclusion of drugs to which the cells show resistance should minimize the side effects of chemotherapy.

Dietitian Participation In Co-Operative Group Studies

White, D. F.

This project allows involvement of the Cancer Clinic Dietitian in the research activities of the co-operative group studies undertaken by the Saskatoon Cancer Clinic. Of the 25 patients entered in studies during the period June 1, 1987 to May 30, 1988, the Dietitian provided nutrition consultation to 19 of the new entries.

The Dietitian provided education to health service professionals and participated in public education activities.

Cancer In Saskatchewan — A Statistical Evaluation*

Benson, D. L. and Robson, D. L. in collaboration with Tan, L.

The objective of this project is to produce a series of geographical incidence maps for the province for all cancers, as well as selected cancer sites, for the years 1970 - 1987.

The project uses SAS software and is based on cancer incidence data excluding death certificate only cases. The project is expected to be completed in July, 1988.

Research Projects

Funded by the Saskatchewan Cancer Foundation Research Fund

Philips SL25-Related Software Development*

Baillie, A. D.

The Saskatoon Cancer Clinic has purchased new linear accelerators which have control systems to allow more complex treatments to be administered than were possible with previous treatment units.

The aim of this project is to develop software which will make it more practical to utilize these capabilities and which will improve the accuracy of patient treatment. This will involve modification of the treatment planning system to allow it to make calculations for these new conditions, and to simplify the transfer of these complex treatment plans into practice. The treatment verification system will be modified to provide a uniform work environment for the operators of all our radiation machines.

Development of Quantitative Radionuclide Cardiography*

Sloboda, R. S. and Mawko, G. M.

This project evolved from an earlier one in which a simplified dynamic cardiac phantom was constructed for nuclear medicine quality control purposes. The work aims to elucidate the physical details relevant to quantitative radionuclide blood pool imaging, and to use this information to develop accurate, reliable methods for non-invasive left ventricular volume measurement. This achievement would permit better evaluation of cardiac function for cancer patients undergoing therapy who require serial cardiac assessment. The objective will be met in part through the construction of a three chamber dynamic cardiac phantom to be used in a series of controlled experiments simulating different aspects of the clinical imaging situation. Initial design work on the phantom is now complete. Current efforts are directed towards the fabrication of specialized phantom components, and the assembly and testing of the fluid drive and controls subsystems.

* Projects commenced during the 1987-88 fiscal year.

Publications

Belch, A., Shelley, W., Bergsagel, D., Wilson, K., Klimo, P., WHITE, D. A randomized trial of maintenance vs. no maintenance melphalan and prednisone in responding multiple myeloma patients. British Journal of Cancer, 57:94-99, 1988.

CARD, R. T. Red cell membrane changes during storage. Transfusion Medicine Reviews, 2:40-47, 1988.

CARD, R. T., Prasad, K., Bharadwaj, B., Hnatuk, L. A. P., MacFadyen, M. A. High 2,3-DPG blood cardioplegia and myocardial preservation during cardiopulmonary bypass. Angiology, 39:123-131, 1988.

CARD, R. T., Ferguson, D. J. Relationship of stored red cell deformability to survivability following transfusions: in vitro prediction of in vivo viability. Blood, 70:327a, 1987.

Fainstein, V., Bodey, G. P., Elting, L., MAKSYMUIK, A., Keating, M., McCredie, K. Amphotericin B or ketoconazole therapy of fungal infections in neutropenic cancer patients. Antimicrobial Agents and Chemotherapy, 31:11-15, 1987

Labow, R. S., CARD, R. T., Rock, G. The effect of the plasticizer Di (2-ethylhexyl)phthalate (DEHP) on red cell deformability. Blood, 70:319, 1987.

Maroun, J., Eisenhauer, E., Cripps, C., MAKSYMUIK, A. W., Phase II study of tiazofurin in colorectal cancer: a National Cancer Institute of Canada study. Cancer Treatment Reports, 71:1297-1298, 1987.

Poon, M. C., CARD, R. T., Bowen, T. Human immunodeficiency virus antibody (HIV-Ab) in hemophiliacs and Von Willibrand's Disease (VWD) patients in southern Alberta and Saskatchewan: evidence for seroconversion in 1980-85. Clinical Investigative Medicine, 10:B81, 1987.

POPKIN, D. R. Colposcopy. Canadian Family Physician, 33:2083-2087, 1987.

Prasad, K., Bharadwaj, B., CARD, R. T. Effects of blood and crystalloid cardioplegia on cardiac function at organ and cellular levels during hypothermic cardiac arrest. Angiology, 39:23-33, 1988.

Quirt, I., Eisenhauer, E., Bramwell, V., Knowling, M., Grafton, C., Hirte, W., Cripps, M., MAKSYMUIK, A. W. Phase II study of mitoxantrone in untreated and previously minimally treated patients with metastatic soft tissue sarcomas. Cancer Treatment Reports, 71:1109, 1987.

SKINNIDER, L., MAKSYMUIK, A. W. The effect of cytochalasin D on normal and leukemic lymphoid cells: an ultrastructural study. Blood, 70(supp.): 414 (abst.), 1987.

SLOBODA, R. S. Vector implementation of Chang's attenuation correction method for single photon emission computed tomography. Medical Physics, 14:6, 1987.

Tsoukas, C., Strawczynski, H., CARD, R. T., Gowe, G., Shuster, J., Gold, P. Observations following splenectomy for HIV associated ITP. Clinical Investigative Medicine, 10:B39, 1987.

Wilson, K., Shelley, W., Belch, A., Brandes, L., Bergsagel, D., Klimo, P., WHITE, D., Willan, A. Weekly cyclophosphamide and alternate day prednisone: an effective secondary therapy in multiple myeloma. Cancer Treatment Reports, 72: 1987.

Historical Background

- 1929 The Saskatchewan Medical Association appointed a committee to study facilities available in the Province for treatment of cancer and recommended to the Minister of Health that a cancer program be established.
- 1930 The Saskatchewan Cancer Commission Act was passed which authorized a Commission to establish a cancer control program in Saskatchewan.
- 1931 Consultative diagnostic treatment clinics were opened at the Regina General Hospital and the Saskatoon City Hospital.
- 1939 The Regina Cancer Clinic was relocated to the Regina Grey Nuns' Hospital.
- 1944 The Cancer Control Act replaced the Saskatchewan Cancer Commission Act, and provided treatment at provincial expense for persons who had been resident in the province for more than six months.
- 1945 Radioactive isotopes were introduced to a limited extent at the clinics.
- 1947 The Canadian Cancer Society provided a personal service worker at each clinic to help in the personal needs of the patient.
- 1948 The Regina clinic moved to a newly constructed wing of the Regina Grey Nuns' Hospital and was named the Allan Blair Memorial Clinic in recognition of the contribution of the late Dr. Allan W. Blair to the program.
- 1949 A 25 million electron volt betatron was installed at the University of Saskatchewan and became available for treatment of patients with advanced cancer.
- 1951 The first cobalt unit in the world was designed and installed at the Saskatoon Cancer Clinic.
- 1954 The cancer clinic in Saskatoon was moved to the newly constructed University Hospital.
- 1958 Treatment was extended as an insured benefit to persons who had been resident in the province for more than three months.
- 1962 Insured benefits for cancer treatment were extended to Saskatchewan residents who received treatment outside the province.
- 1963 Renovation and expansion of radiotherapy facilities at the Allan Blair Memorial Clinic were completed.
- 1966 Insured benefits were extended to landed immigrants from the day of arrival.
- 1970 The Minister of Public Health established a study team to review and examine all aspects of cancer care in Saskatchewan and the report was made available in 1972.
- 1972 A new radiotherapy facility was opened at the Saskatoon Cancer Clinic which included a new 42 million electron volt betatron.
- 1973 The Cancer Control Act was amended to provide for the establishment of trust funds which could receive gifts, donations, bequests or grants.
- 1975 Nuclear medicine services were transferred from the cancer program to the Boards of the University Hospital and the South Saskatchewan Hospital Centre as hospital-based services.

Historical Background

- 1978 Dr. T. A. Watson completed a study titled "A Report on Some Aspects of the Saskatchewan Cancer Program". Several recommendations were made in the report including the establishment of the Saskatchewan Cancer Foundation to replace the Cancer Commission and the purchase of a linear accelerator for the Allan Blair Memorial Clinic.
- Construction was completed on the expanded and renovated radiotherapy facilities at the Allan Blair Memorial Clinic.
- 1979 The Saskatchewan Cancer Foundation Act was passed establishing a Foundation to replace the Cancer Commission. Under this Act, the Foundation conducts a program for the diagnosis, prevention and treatment of cancer.
- 1980 Renovations to the Allan Blair Memorial Clinic were started beginning with the chemotherapy treatment area.
- 1981 A Siemens 20 MeV Linear Accelerator was installed at the Allan Blair Memorial Clinic.
- Construction of a 28 bed patient lodge in Saskatoon was begun.
- 1982 The newly renovated Allan Blair Memorial Clinic was officially opened on June 22, 1982.
- 1983 On April 8, 1983, the first Saskatchewan patient lodge was officially opened in Saskatoon.
- 1985 On July 12, 1985 the second Saskatchewan patient lodge was officially opened in Regina.
- A Siemens 4 MeV Linear Accelerator was installed at the Allan Blair Memorial Clinic.
- 1986 Construction commenced on the new clinic in Saskatoon.
- The Foundation established the "Sylvia Fedoruk Prize in Medical Physics" to honour Sylvia O. Fedoruk on the occasion of her retirement.
- The National Cancer Institute (Canada) presented the Terry Fox Regional Development Award jointly to the University of Saskatchewan's College of Medicine and the Saskatchewan Cancer Foundation.